

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

21ST CENTURY GARAGE LLC,

Plaintiff,

v.

GENERAL MOTORS LLC,

Defendant.

CIVIL ACTION

NO. 6:21-cv-825

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff 21st Century Garage LLC files this Complaint for Patent Infringement against Defendant General Motors LLC (“Defendant” or “GM”), and states as follows:

THE PARTIES

1. Plaintiff is a limited liability company organized and existing under the laws of the State of Georgia, having its principal office at 1700 Northside Drive, Suite A7, #5109, Atlanta, GA 30318.

2. Defendant is a limited liability company organized and existing under the laws of the State of Delaware, with a principal office at 300 Renaissance Center, Detroit, MI 48265.

JURISDICTION AND VENUE

3. This Court has exclusive subject matter jurisdiction over this case pursuant to 28 U.S.C. §§ 1331 and 1338(a) on the grounds that this action arises under the Patent Laws of the United States, 35 U.S.C. § 1 et seq., including, without limitation, 35 U.S.C. §§ 271, 281, 284, and 285.

4. This Court has personal jurisdiction over Defendant because it has minimum contacts with the State of Texas, and has purposefully availed itself of the privileges of conducting business in the State of Texas. For example, Defendant employs more than 8,700 employees and has thirteen facilities in Texas. *See* <https://www.gm.com/our-company/us/tx.html>. Further, on information and belief, Defendant has sold or offered to sell infringing products in the State of Texas and this Judicial District, or has manufactured accused vehicles and provided them to intermediaries for distribution throughout the country, including Texas, with knowledge of this distribution. <https://www.gm.com/our-company/us/tx.html> (describing 275,435 vehicles delivered in Texas in 2020).

5. Venue is proper in this Court pursuant to 28 U.S.C. § 1400(b) on the grounds that Defendant has committed acts of infringement in and has a regular and established place of business in this Judicial District. For example, upon information and belief, (a) it maintains regular and established places of business in this District, including the GM Austin Customer Engagement Center and the Austin IT Innovation Center, which is located at 13201 McCallen Pass, Austin, TX 78753 (where, on information and belief, Defendant employs more than 2,600 employees); (b) it conducts its business of the exclusive distribution of new automobiles to the consuming public in this District through its authorized dealers in this District, which it holds out to the public as its own (e.g., AutoNation Chevrolet Waco, 1625 N Valley Mills Dr., Waco, TX 76710; Jim Turner Chevrolet, 1015 E McGregor Dr., McGregor, TX 76657; Capitol Chevrolet, 6200 S IH 35 Frontage Rd, Austin, TX 78745; AutoNation Chevrolet West Austin, 11400 Research Blvd, Austin, TX 78759; Henna Chevrolet, 8805 N Interstate Hwy 35, Austin, TX 78753; Don Hewlett Chevrolet Buick, 7601 S IH 35 Frontage Rd, Georgetown, TX 78626; Covert Chevrolet Buick GMC, 702 State

Hwy 71, Bastrop, TX 78602; Covert Cadillac, 11750 Research Blvd, Austin, TX 78759; Viva Chevrolet, 5915 Montana Ave., El Paso, TX 79925; Rudolph Chevrolet, 5625 S Desert Blvd, El Paso, TX 79932; Mission Chevrolet, 1316 George Dieter Dr., El Paso, TX 79936; Bravo Cadillac, 6555 Montana Ave, El Paso, TX 79925; Shamaley Buick GMC, 955 Crockett St, El Paso, TX 79922; Ancira Winton Chevrolet, 6111 Bandera Rd, San Antonio, TX 78238; Freedom Chevrolet, 13483 I-10, Frontage Rd, San Antonio, TX 78249; Northside Chevrolet, 9400 San Pedro Ave, San Antonio, TX 78216; Vara Chevrolet, 8011 Interstate 35 Access Rd, San Antonio, TX 78224); and (c) conducts its business of the provision of new purchase warranties and service pursuant to those warranties to the consuming public in this District through its authorized dealerships located in this District.

FACTUAL BACKGROUND

U.S. Patent No. 6,526,460

6. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,526,460, entitled “Vehicle Communications System” (“the ’460

patent”), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

7. A true and correct copy of the ’460 patent is attached hereto as Exhibit A. The ’460 patent is incorporated herein by reference.

8. The application that became the ’460 patent was filed on August 30, 1999, and was assigned U.S. Patent Application No. 09/385,364.

9. The ’460 patent issued on February 25, 2003, after a full and fair examination by the USPTO.

10. The ’460 patent is valid and enforceable and directed to eligible subject matter.

11. The ’460 patent discloses and claims inventions relating to a vehicle communications system.

12. The ’460 patent explains that previous vehicle communications systems having a central computer to control a plurality of equipment units for handling data for executing various applications had a disadvantage in that “a modular system structure can only be realized by means of corresponding or different hardware

interfaces at the central computer and that, in the case of equipment units with a plurality of executable functions in the hardware interface, a complicated protocol has to be performed by the central computer.” ’460 patent at 1:44-50.

13. Another disadvantage of previous systems was “that the individual functions cannot be operated from all operational locations,” and that “there is no description of how the system can be extended and of how functional changes can be performed.” *Id.* at 1:59-63.

14. The ’460 patent discloses and claims solutions to such technical deficiencies in the art. For example, the ’460 patent states that “[t]he object of the invention is to develop a generic communications system such that it can be extended and adapted to new tasks and applications with comparatively little outlay.” *Id.* at 1:64-67. The ’460 patent identifies various other advantages provided by the technical solutions disclosed and claimed in the ’460 patent. *Id.* at 2:1-4:38.

15. The claims of the ’460 patent incorporate technical solutions to the technical deficiencies in the existing art.

16. For example, claim 1 of the '460 patent recites:

A vehicle communications system, comprising:

a plurality of equipment units for transmitting, receiving, acquiring and/or processing data for executing applications;

a plurality of hardware interfaces each associated with one of said plurality of equipment units;

a common vehicle data bus, each of the plurality of equipment units being connected to the common vehicle data bus via said associated one of said hardware interfaces; and

wherein the applications are assigned flexibly controllable functions having respective software interfaces, each function being respectively assigned one of said software interfaces for exchanging data with other ones of software interfaces and/or said hardware interfaces, wherein the functions are executed within any desired one of said equipment units.

17. The invention recited in claim 1 addresses technical deficiencies in the state of the art, including deficiencies identified in the '460 patent's Background section by, for example, providing that the applications are assigned flexibly controllable functions having respective software interfaces, each function being respectively assigned one of said software interfaces for exchanging data with other ones of software interfaces and/or said hardware interfaces, wherein the functions are executed within any desired one of said equipment units.

18. The claim elements recited in claim 1 were not well-understood, routine, or conventional when the inventors of the '460 patent filed their patent application.

U.S. Patent No. 8,331,998

19. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 8,331,998, entitled “Combined Rear View Mirror and Telephone” (“the '998 patent”), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

20. A true and correct copy of the '998 patent is attached hereto as Exhibit B. The '998 patent is incorporated herein by reference.

21. The application that became the '998 patent was filed on September 23, 2011, and was assigned U.S. Patent Application No. 13/242,158. The '158 application claims priority, through other intervening applications, to U.S. Patent Application No. 09/532,859, filed on March 22, 2000.

22. The '998 patent issued on December 11, 2012, after a full and fair examination by the USPTO.

23. The '998 patent is valid and enforceable and directed to eligible subject matter.

24. The '998 patent discloses and claims inventions relating to technology for communication in a vehicle.

25. The claims of the '998 patent incorporate technical solutions to technical deficiencies in the existing art. For example, the invention recited in claim 8 addresses technical deficiencies in the state of the art by reciting:

8. A method for communication in a vehicle, the method comprising:

communicatively coupling an integrated rear view mirror/communications apparatus with first and second communications devices, wherein the integrated rear view mirror/communications apparatus is adapted to be attached to the vehicle and the first and second communications devices are physically separate from the integrated rear view mirror/communications apparatus;

receiving, by the integrated rear view mirror/communications apparatus, information from the first communications device, the information pertaining to the vehicle; and

transmitting, by the integrated rear view mirror/communications apparatus to a cellular telephone service provider, data indicative of said information pertaining to the

vehicle while simultaneously maintaining a communications link with the second communications device.

26. The claim elements recited in claim 8 were not well-understood, routine, or conventional when the inventors of the '998 patent filed their patent application.

U.S. Patent No. 5,978,737

27. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 5,978,737, entitled "Method and Apparatus for Hazard Detection and Distraction Avoidance for a Vehicle" ("the '737 patent"), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

28. A true and correct copy of the '737 patent is attached hereto as Exhibit C. The '737 patent is incorporated herein by reference.

29. The application that became the '737 patent was filed on October 16, 1997, and was assigned U.S. Patent Application No. 08/953,863.

30. The '737 patent issued on November 2, 1999, after a full and fair examination by the USPTO.

31. The '737 patent is valid and enforceable and directed to eligible subject matter.

32. The '737 patent discloses and claims inventions relating to the detection of hazardous conditions during operation of a vehicle.

33. The '737 patent observed that, at the time of filing, “people are spending increasing amounts of time driving in automobiles,” while at the same time, “technology is becoming available to allow a driver to perform an ever increasing number of functions in addition to driving the automobile” (e.g., inserting compact discs, dialing a phone, and the like). '737 patent at 1:10-19. The result, the '737 patent explains, “is to make a driver increasingly less alert to chang[ing] conditions inside and outside the automobile that constitute hazards.” *Id.* at 1:20-25.

34. The '737 patent further explains that “[e]xisting automobile hazard detection systems” were “of limited intelligence.” *Id.* at 1:31-33. In particular, the '737 patent discloses, “they detect a limited group of hazards and provide a limited group of responses, for example, manipulating a car’s braking system in response to detecting skidding, or activating a collision alarm in response to

detecting an imminent collision.” *Id.* at 1:33-36. Thus, the ’737 identified a technological problem with the existing art.

35. The ’737 patent discloses technical solutions to that technical problem. One of these solutions is recited in claim 1 of the ’737 patent:

1. A system for detecting hazardous conditions during operation of a vehicle, comprising:

a plurality of sensors that monitor a plurality of conditions and transmit condition signals each representing a measure of a condition;

a plurality of rate determination circuits coupled to the sensors that continually receive the condition signals, wherein each rate determination circuit calculates rates of change for the condition, including a baseline rate of change, and outputs a potential hazard value representing a deviation of a rate of change from the baseline rate that exceeds a predetermined threshold value; and

an evaluation circuit that receives the potential hazard value, calculates a new potential hazard value using the potential hazard value and a rate of change for at least one associated condition and determines whether an actual hazard exists by comparing the new potential hazard value with a stored value that corresponds to the condition.

36. The invention recited in claim 1 addresses technical deficiencies in the state of the art, including the deficiencies identified in the ’737 patent’s Background of the Invention by, for example, providing a more intelligent hazard detection system that

identifies actual hazards based on a monitored condition and an associated condition as recited in claim 1.

37. The claim elements recited in claim 1 were not well-understood, routine, or conventional when the inventors of the '737 patent filed their patent application.

U.S. Patent No. 6,332,628

38. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,332,628, entitled "Side-Impact Airbag Assembly" ("the '628 patent"), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the United States Patent and Trademark Office ("USPTO").

39. A true and correct copy of the '628 patent is attached hereto as Exhibit D. The '628 patent is incorporated herein by reference.

40. The application that became the '628 patent was filed on September 22, 1999, and was assigned U.S. Patent Application No. 09/400,873 ("the '873 Application").

41. The '873 Application claims priority to German Patent Application 198 43 402, filed September 22, 1998.

42. The '628 patent issued on December 25, 2001, after a full and fair examination by the USPTO.

43. The '628 patent is valid and enforceable and directed to eligible subject matter.

44. The '628 patent discloses and claims inventions relating to a side-impact airbag assembly for a passenger cell of a vehicle.

For example, claim 12 of the '628 patent recites:

12. Side impact airbag assembly for a passenger cell of a motor vehicle which has a plurality of pillars, a side window disposed between first and second ones of said pillars, and a roof frame extending above the side window, said side impact airbag assembly comprising:

a window bag with a window portion and a pillar portion,

a window bag housing at the roof frame, and

a collision responsive window bag inflator operable to inflate the window bag and thereby deploy the bag from a folded up position in the window bag housing to an inflated passenger protecting position,

wherein the window bag and window bag housing are configured to deploy the window bag in a downward and obliquely horizontal direction with the window portion covering at least a part of the side window and the pillar portion covering at least a part of the first pillar.

45. The claim elements recited in claim 12 were not well-understood, routine, or conventional when the inventors of the '628 patent filed their patent application.

U.S. Patent No. 6,584,403

46. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,584,403, entitled “Automated Vehicle Tracking and Service Provision System” (“the '403 patent”), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

47. A true and correct copy of the '403 patent is attached hereto as Exhibit E. The '403 patent is incorporated herein by reference.

48. The application that became the '403 patent was filed on January 17, 2001, and was assigned U.S. Patent Application No. 09/761,169. The '169 application is a divisional of U.S. Patent Application No. 09/163,184, which was filed on September 30, 1998, which in turn was a continuation of U.S. Patent Application No. 08/786,184, which was filed on January 21, 1997.

49. The '403 patent issued on June 24, 2003, after a full and fair examination by the USPTO.

50. The '403 patent is valid and enforceable and directed to eligible subject matter.

51. The '403 patent discloses and claims inventions relating to an automated vehicle tracking and service provision system.

52. For example, claim 25 of the '403 patent recites:

1. An information processing system comprising:

(a) a wireless communication interface associated with a central controller for communicating information between said central controller and a plurality of local controllers;

(b) an information processor associated with said central controller for receiving geo-location information received from ones of said plurality of local controllers and for selecting and transmitting from an information source geo-specific information, based on said geo-location information, to ones of said local controllers.

53. The claim elements recited in claim 25 were not well-understood, routine, or conventional when the inventors of the '403 patent filed their patent application.

54. Claim 25 is not directed to an abstract idea but instead to a particular technological solution to a technological problem (e.g.,

inefficient technologies for receiving and providing information to a large number of vehicles).

55. At the time of the '403 patent's priority date, inefficiencies in available communication technologies prevented a central controller from efficiently communicating with a large number of vehicles to, for example, (1) provide goods and services to the vehicles (e.g., their customers or assets) in a timelier fashion; or (2) safeguard the vehicles.

56. Claim 25 addresses such inefficiencies by reciting a system that allows more efficient communication technologies by providing geo-specific information based on geo-location information without requiring individuals (e.g., customers, service persons, delivery persons, borrowers, or renters) to constantly provide updates regarding their location or progress.

57. Claim 25 includes an inventive concept as demonstrated by the non-conventional and non-generic arrangement of the elements recited in claim 25. In particular, claim 25 recites an ordered combination constituting an improvement over prior-art techniques.

58. The '403 patent recites additional technological solutions to technological problems.

59. For example, a common problem with merchant information loaded into vehicle infotainment systems is that such information quickly becomes outdated, resulting in vehicle operators being directed to merchants no longer located at the address in the infotainment system or omitting more recent merchants that the vehicle operator may be interested in. However, updating such infotainment systems was previously cumbersome. Claim 26 is directed to a technical solution to the problem of, *inter alia*, providing up-to-date information regarding merchant services available in the geographic location of a vehicle: “A system as defined in claim 25, said information including merchant services associated with said geo location of said local controllers.”

60. Another common problem with mapping systems preloaded onto a vehicle's infotainment system is that such information quickly became out of date. However, updating such mapping systems was previously cumbersome. Claim 29 is directed to a technical solution to the problem of, *inter alia*, providing up-to-

date navigation information: “A system as defined in claim 25, said local controller including a mapping function for providing directions to a user specified destination, said directions being based on said vehicle's current geo-location.”

61. The '403 patent also improved upon navigation systems involving locally stored mapping information by providing a mapping system that receives information including traffic flow and driving information from a central controller.

62. This improvement is recited, for example, in claim 30 of the '403 patent: “A system as defined in claim 25, said information including traffic flow and driving information, based on said vehicle's current geo location.”

63. The invention recited in claim 30 improves upon prior art systems by providing driving information, including traffic flow information, that originates from the central controller instead of relying on locally stored information. In this manner, the navigation information provided to a driver can account for up-to-date information. It also avoids technical challenges involved in providing updates to local systems.

64. Claim 30 includes an inventive concept as demonstrated by the non-conventional and non-generic arrangement of the elements recited in claim 30. In particular, claim 30 recites an ordered combination constituting an improvement over prior-art techniques.

U.S. Patent No. 7,098,805

65. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 7,098,805, entitled “Method and System for Monitoring Vehicular Traffic Using a Wireless Communications Network” (“the ’805 patent”), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

66. A true and correct copy of the ’805 patent is attached hereto as Exhibit F. The ’805 patent is incorporated herein by reference.

67. The application that became the ’805 patent was filed on December 15, 2003, and was assigned U.S. Patent Application No. 10/734,171. The ’171 application is a continuation of U.S. Patent Application No. 09/587,801, filed on June 6, 2000.

68. The '805 patent issued on August 29, 2006, after a full and fair examination by the USPTO.

69. The '805 patent is valid and enforceable and directed to eligible subject matter.

70. The '805 patent discloses and claims inventions relating to monitoring vehicular traffic using a wireless communication network and providing traffic information responsive to a request.

71. For example, claim 17 of the '805 patent recites:

The method for providing advertising information, comprising:

receiving traffic information transmitted by a plurality of motion sensors located along one or more roadways, wherein the traffic information is transmitted when the plurality of motion sensors detect a change in a current average traffic speed beyond a threshold amount;

storing the traffic information in a database containing advertising information of advertisers;

receiving a request for at least a portion of the traffic information;

presenting at least a portion of the advertising information of advertisers; and

providing at least a portion of the traffic information.

72. Claim 20, which depends from claim 17, further recites, “The method of claim 17, further comprising storing the advertising

information of advertisers in the database according to geographical locations associated with the advertisers.”

73. The claim elements recited in claim 17 were not well-understood, routine, or conventional when the inventors of the ’805 patent filed their patent application.

74. Claim 17 is not directed to an abstract idea but instead to a particular technological solution to a technological problem as discussed above.

75. As the ’805 patent explains, “In almost every metropolitan region, automobile traffic congestion is identified as one of the greatest obstacles to economic growth, productivity, and quality of life for area commuters. Despite the interminable efforts of city planners to improve roadwork and highway systems, new roads always eventually result in increased traffic that ultimately exceeds the intended capacity. In the attempt to avoid insufferable delays, many commuters rearrange their commuting schedule or otherwise travel by alternative routes when there is known to be a traffic backup. However, it is generally difficult for drivers to make alternate commuting plans because adequate traffic congestion information is

not available to drivers at the times when needed.” ’805 patent at 1:18-30.

76. The ’805 patent teaches that, at the time of the ’805 patent’s priority date, available GPS systems “are invaluable for providing directions for alternate routes, but fail to provide any information about the expected traffic for any of the routes.” *Id.* at 1:44-48. However, the ’805 patent also recognized that “there is a need for a system that monitors automotive traffic and can be customized by drivers to provide detailed information about the traffic conditions at particular, specified locations.” *Id.* at 1:48-51.

77. Claim 17 addressed these technological problems with a technological solution, including, for example, by reciting, “receiving traffic information transmitted by a plurality of motion sensors located along one or more roadways, wherein the traffic information is transmitted when the plurality of motion sensors detect a change in a current average traffic speed beyond a threshold amount.”

78. The ’805 patent also recognized that drivers are frequently interested in information such as nearby restaurants. *Id.* at 8:13-20. By providing such advertising information along with traffic

information, the '805 patent improved upon existing technology. For example, presenting advertising information in this manner improved safety by facilitating the presentation of information of interest to the driver.

79. Claim 17 incorporates this technological solution by reciting “receiving a request for at least a portion of the traffic information; presenting at least a portion of the advertising information of advertisers; and providing at least a portion of the traffic information.” Claim 20 also claims a further technological solution to this problem by reciting, “storing the advertising information of advertisers in the database according to geographical locations associated with the advertisers.”

80. Claims 17 and 20 include an inventive concept as demonstrated by the non-conventional and non-generic arrangement of the elements recited in claim 17 and claim 20. In particular, claim 17 and claim 20 each recite an ordered combination constituting an improvement over prior-art techniques.

U.S. Patent No. 6,292,132

81. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,292,132, entitled “System and Method for Improved Accuracy in Locating and Maintaining Positions Using GPS” (“the ’132 patent”), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

82. A true and correct copy of the ’132 patent is attached hereto as Exhibit G. The ’132 patent is incorporated herein by reference.

83. The application that became the ’132 patent was filed on August 13, 1999, and was assigned U.S. Patent Application No. 09/373,560.

84. The ’132 patent issued on September 18, 2001, after a full and fair examination by the USPTO.

85. The ’132 patent is valid and enforceable and directed to eligible subject matter.

86. The '132 patent discloses and claims inventions relating to technology for improving accuracy in locating and maintaining positions using GPS.

87. The '132 patent explains that, at the time of its priority date, "There is therefore needed a position determining system and method which provides improved accuracy while minimizing the effects of multipath or other noise sources." '132 patent at 1:66-2:1.

88. Claim 4 of the '132 patent recites an invention addressing this technological shortcoming in the state of the art:

4. A system for maintaining position information, based on an initial position of a mobile platform, the system comprising:

at least two antennas mounted on the mobile platform;

less than four position information signals from position transmitters arranged at known locations;

position processors coupled to said antennas, each of position information signals detected by said antennas being processed into phase information; and

a heading processor coupled to receive said phase information from said position processors to maintain the position information on the mobile platform over time based on the known initial position.

89. The claim elements recited in claim 4 were not well-understood, routine, or conventional when the inventors of the '132 patent filed their patent application.

90. Claim 4 is not directed to an abstract idea but instead to a particular technological solution to a technological problem (e.g., improving accuracy in locating and maintaining position).

91. Claim 4 includes an inventive concept as demonstrated by the non-conventional and non-generic arrangement of the elements recited in claim 4. In particular, claim 4 recites an ordered combination constituting an improvement over prior-art techniques.

U.S. Patent No. 6,292,752

92. Plaintiff 21st Century Garage is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,292,752, entitled “Device for Acquiring Lane Path Indicative Data” (“the ’752 patent”), including the right to sue for all past, present, and future infringement, which assignment was duly recorded in the USPTO.

93. A true and correct copy of the ’752 patent is attached hereto as Exhibit H. The ’752 patent is incorporated herein by reference.

94. The application that became the ’752 patent was filed on November 6, 1998, and was assigned U.S. Patent Application No.

09/187,530. The '530 application claimed priority to a German patent application filed November 6, 1997.

95. The '752 patent issued on September 18, 2001, after a full and fair examination by the USPTO.

96. The '752 patent is valid and enforceable and directed to eligible subject matter.

97. The '752 patent discloses and claims inventions relating to technology for use in, for example, the automatic control of the lengthwise or transverse movement of vehicles. '752 patent at 1:19-2:19.

98. The '752 patent explains that “The technical problem addressed by the invention is the provision of a device of the above-mentioned type with which lane path indicative data can be acquired comparatively reliably in real-time even under unfavorable environmental conditions. The device must allow, in particular, a reliable acquisition of the lane curvature and/or the transverse position of objects in front of the vehicle relative to the lane.” *Id.* at 2:12-19.

99. Claim 5 of the '752 patent recites an invention addressing this technological shortcoming in the existing state of the art:

5. A method for acquiring data indicative of a path of a lane of a vehicle, the method comprising the acts of:

sensing lane detection measurement data;

detecting a distance (d) of an object located ahead of the vehicle and its directional angle (ϕ) relative to a direction of movement of the vehicle;

detecting movement of the vehicle itself;

estimating at least one of: (a) a lane curvature (c_0) and (b) a transverse position (x_R) of said object relative to the lane, using a presettable estimation algorithm incorporating a dynamic vehicle movement model as a function of the lane detection measurement data, the distance (d) of the object located ahead of the vehicle and its directional angle (ϕ) relative to the direction of movement of the vehicle, as well as the vehicle's own motion, further comprising the act of entering geometric relationships between the lane detection measurement data and the distance and directional angle data as measurement equations, wherein their dynamic relationships are entered as state variable differential equations into the estimation algorithm, with the transverse position (x_R) of the object being treated in the differential equations as a time-constant state variable.

100. The claim elements recited in claim 5 were not well-understood, routine, or conventional when the inventors of the '752 patent filed their patent application.

101. Claim 5 is not directed to an abstract idea but instead to a particular technological solution to a technological problem, as the patent itself describes in column 2.

102. Claim 5 includes an inventive concept as demonstrated by the non-conventional and non-generic arrangement of the elements recited in claim 5. In particular, claim 5 recites an ordered combination constituting an improvement over prior-art techniques.

Count I: Infringement of the '460 Patent

103. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

104. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '460 patent.

105. For example, on information and belief, Defendant has infringed at least claim 1 of the '460 patent, either literally or under the doctrine of equivalents, in connection with their vehicles containing the MOST bus, as detailed in the preliminary claim chart attached hereto as Exhibit I and incorporated herein by reference.

106. Defendant's infringing activities have been without authority or license under the '460 patent.

107. Plaintiff has been damaged by Defendant's infringement of the '460 patent, and Plaintiff is entitled to recover damages for

Defendant's infringement, which damages cannot be less than a reasonable royalty.

108. More than a year prior to filing this action, on April 10, 2020, Plaintiff specifically notified Defendant of its infringement of the '460 patent and expressed interest in resolving the matter without the need for litigation.

109. Defendant responded on April 23, 2020, indicating its receipt of the notice. While Defendant indicated that it would respond in due course, it has not done so prior to the filing of this Complaint. In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the '460 patent.

Count II: Infringement of the '998 Patent

110. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

111. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '998 patent.

112. For example, on information and belief, Defendant has infringed at least claim 8 of the '998 patent, either literally or under

the doctrine of equivalents, in connection with its vehicles equipped with GM OnStar, as detailed in the preliminary claim chart attached hereto as Exhibit J and incorporated herein by reference.

113. Defendant's infringing activities have been without authority or license under the '998 patent.

114. Plaintiff has been damaged by Defendant's infringement of the '998 patent, and Plaintiff is entitled to recover damages for Defendant's infringement, which damages cannot be less than a reasonable royalty.

115. Approximately five months prior to filing this action, on March 12, 2021, Plaintiff specifically notified Defendant of its infringement of the '998 patent and expressed interest in resolving the matter without the need for litigation.

116. Defendant responded on March 23, 2021, indicating its receipt of the notice. While Defendant indicated that it would "review and get back to you," it has not done so prior to the filing of this Complaint. In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the '998 patent.

Count III: Infringement of the '737 Patent

117. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

118. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '737 patent.

119. For example, on information and belief, Defendant has infringed at least claim 1 of the '737 patent, either literally or under the doctrine of equivalents, in connection with, for example, its Cadillac Escalade vehicles, as detailed in the preliminary claim chart attached hereto as Exhibit K and incorporated herein by reference.

120. Defendant's infringing activities have been without authority or license under the '737 patent.

121. Plaintiff has been damaged by Defendant's infringement of the '737 patent, and Plaintiff is entitled to recover damages for Defendant's infringement, which damages cannot be less than a reasonable royalty.

122. More than a year before filing this action, on April 10, 2021, Plaintiff specifically notified Defendant of its infringement of the '737

patent and expressed interest in resolving the matter without the need for litigation.

123. Defendant responded on April 23, 2020, indicating its receipt of the notice. While Defendant indicated that it would respond in due course, it has not done so prior to the filing of this Complaint. In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the '737 patent.

Count IV: Infringement of the '628 Patent

124. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

125. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '628 patent.

126. For example, on information and belief, Defendant has infringed at least claim 12 of the '628 patent, either literally or under the doctrine of equivalents, in connection with, for example, its Chevrolet Silverado vehicle, as detailed in the preliminary claim chart attached hereto as Exhibit L and incorporated herein by reference.

127. Defendant's infringing activities have been without authority or license under the '628 patent.

128. Plaintiff has been damaged by Defendant's infringement of the '628 patent, and Plaintiff is entitled to recover damages for Defendant's infringement, which damages cannot be less than a reasonable royalty.

129. More than a year before filing this action, on April 10, 2020, Plaintiff specifically notified Defendant of its infringement of the '628 patent and expressed interest in resolving the matter without the need for litigation.

130. Defendant responded on April 23, 2020, indicating its receipt of the notice. While Defendant indicated that it would respond in due course, it has not done so prior to the filing of this Complaint. In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the '628 patent.

Count V: Infringement of the '403 Patent

131. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

132. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '403 patent.

133. For example, on information and belief, Defendant has infringed at least claims 25, 26, and 28-31 of the '403 patent, either literally or under the doctrine of equivalents, in connection with, for example, its vehicles using Connected Services, as detailed in the preliminary claim chart attached hereto as Exhibit M and incorporated herein by reference.

134. Defendant's infringing activities have been without authority or license under the '403 patent.

135. Plaintiff has been damaged by Defendant's infringement of the '403 patent, and Plaintiff is entitled to recover damages for Defendant's infringement, which damages cannot be less than a reasonable royalty.

136. Approximately five months prior to filing this action, on March 12, 2021, Plaintiff specifically notified Defendant of its infringement of the '403 patent and expressed interest in resolving the matter without the need for litigation.

137. Defendant responded on March 22, 2021, indicating its receipt of the notice. While Defendant indicated that it would “review and get back to you.” In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the ’403 patent.

Count VI: Infringement of the ’805 Patent

138. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

139. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the ’805 patent.

140. For example, on information and belief, Defendant has infringed at least claims 17, 20, and 21 of the ’805 patent, either literally or under the doctrine of equivalents, in connection with, for example, its Cadillac vehicles providing Infotainment Navigation, as detailed in the preliminary claim chart attached hereto as Exhibit N and incorporated herein by reference.

141. Defendant’s infringing activities have been without authority or license under the ’805 patent.

142. Plaintiff has been damaged by Defendant's infringement of the '805 patent, and Plaintiff is entitled to recover damages for Defendant's infringement, which damages cannot be less than a reasonable royalty.

143. Approximately five months prior to filing this action, on March 12, 2021, Plaintiff specifically notified Defendant of its infringement of the '805 patent and expressed interest in resolving the matter without the need for litigation.

144. Defendant responded on March 22, 2021, indicating its receipt of the notice. While Defendant indicated that it would "review and get back to you," it has not done so prior to the filing of this Complaint. In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the '805 patent.

Count VII: Infringement of the '132 Patent

145. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

146. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '132 patent.

147. For example, on information and belief, Defendant has infringed at least claim 4 of the '132 patent, either literally or under the doctrine of equivalents, in connection with their vehicles utilizing GM Super Cruise, as detailed in the preliminary claim chart attached hereto as Exhibit O and incorporated herein by reference.

148. Defendant's infringing activities have been without authority or license under the '132 patent.

149. Plaintiff has been damaged by Defendant's infringement of the '132 patent, and Plaintiff is entitled to recover damages for Defendant's infringement, which damages cannot be less than a reasonable royalty.

150. Approximately five months prior to filing this action, on March 12, 2021, Plaintiff specifically notified Defendant of its infringement of the '132 patent and expressed interest in resolving the matter without the need for litigation.

151. Defendant responded on March 22, 2021, indicating its receipt of the notice. While Defendant indicated that it would "review and get back to you," it has not done so prior to the filing of this Complaint. In its pre-suit

communications with Plaintiff, Defendant has not denied that it infringes the '132 patent.

Count VIII: Infringement of the '752 Patent

152. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

153. On information and belief, Defendant has made, used, sold, offered for sale, or imported products that incorporate one or more of the inventions claimed in the '752 patent.

154. For example, on information and belief, Defendant has infringed at least claim 5 of the '752 patent, either literally or under the doctrine of equivalents, in connection with their vehicles utilizing adaptive cruise control and/or lane keep assist, as detailed in the preliminary claim chart attached hereto as Exhibit P and incorporated herein by reference.

155. Defendant's infringing activities have been without authority or license under the '752 patent.

156. Plaintiff has been damaged by Defendant's infringement of the '752 patent, and Plaintiff is entitled to recover damages for

Defendant's infringement, which damages cannot be less than a reasonable royalty.

157. Approximately five months prior to filing this action, on March 12, 2021, Plaintiff specifically notified Defendant of its infringement of the '752 patent and expressed interest in resolving the matter without the need for litigation.

158. Defendant responded on March 22, 2021, indicating its receipt of the notice. While Defendant indicated that it would "review and get back to you," it has not done so prior to the filing of this Complaint. In its pre-suit communications with Plaintiff, Defendant has not denied that it infringes the '752 patent.

159. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

JURY TRIAL

160. Plaintiff respectfully demands a trial by jury.

PRAYER FOR RELIEF

Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:

- A. An adjudication that one or more claims of the '460 patent, the '998 patent, the '737 patent, the '628 patent, the '403 patent, the '805 patent, the '132 patent, and the '752 patent have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;
- B. An accounting and an award to Plaintiff of damages adequate to compensate Plaintiff for the Defendant's acts of infringement, together with pre-judgment and post-judgment interest and costs pursuant to 35 U.S.C. § 284;
- C. That this Court declare this to be an exceptional case and award Plaintiff its reasonable attorneys' fees and expenses in accordance with 35 U.S.C. § 285; and
- D. Any further relief that this Court deems just and proper.

This 10th day of August, 2021.

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